

9.0 ALTERNATIVES

Section 10(a)(2)(A) of the FESA requires applicants to consider alternative actions to the take of federally listed species and explain the reasons why those alternatives were not selected. The discussion below considers such alternatives as well as a “no action” alternative in which no incidental take permit would be issued.

9.1 No Action Alternative

Under the No Action Alternative, an Incidental Take Permit would not be issued for take of Covered Species and the Project would not occur. There would be no potential for take of Covered Species because construction, operations, maintenance or decommissioning activities would not occur. The 5,784.3 acres identified as the Permit Area would likely remain vacant, and be managed in a farm-ready state, and converted to actively cultivated farmland whenever an adequate water supply becomes available. The 1,894.4 acres identified as Conservation Sites would not be permanently conserved and the proposed Conservation Management Plan would not be implemented as mitigation; thus, there would be no conservation benefit to Covered Species or other listed or sensitive species as a result of the Project.

Under the No Action Alternative, agricultural activities in the Permit Area could include continued disking, grazing, or agricultural production. Grazing and disking reduces habitat quality as a result of vegetation removal and soil compaction (Rathbun et al. 1997). Agricultural production would similarly reduce habitat quality. The No Action Alternative would fail to contribute towards achieving California’s renewable energy goals and fail to achieve the energy production goals of the project. Therefore, the No Action Alternative is rejected in favor of the proposed Project.

9.2 Alternative 2: Reduced Permit Area

Under Alternative 2, the Permit Area would be reduced from 5,784.3 acres to 3,682 acres by removing from the Project Sites 4-S/4-M (652.5 acres), 6-S (320.9 acres), 7-S/7-M (481.2 acres) and 17-C (647.7 acres). The lands excluded from the Permit Area would likely remain vacant and would continue to be disked on a regular basis for weed control. If water became available, these lands would likely be converted to active agricultural production.

Under Alternative 2, there would be fewer adverse effects to Covered Species than under the proposed Project because construction, operations, maintenance and decommissioning activities would occur over a smaller area. However, less land would be permanently conserved and managed, resulting in fewer benefits to the Covered Species. Alternative 2 would contribute less towards achieving California’s renewable energy goals than the proposed Project. Furthermore, Alternative 2 would not meet the energy production goals of up to 700 MW (actual amount dependent upon technology). Therefore, Alternative 2 is rejected in favor of the proposed Project.

9.3 **Alternative 3: Gravel Site**

Under Alternative 3, the entire ground surface of Solar Development Footprints would be covered with gravel. Graveling the Solar Sites would substantially reduce the potential for Covered Species to colonize and use the Solar Development Footprints over the life of the Project, thus substantially reducing the potential for incidental take associated with the Project's O&M and decommissioning activities.

The addition of gravel would make the Solar Development Footprints unsuitable for ground squirrels that prefer finer substrates for constructing burrows; ground squirrel burrows are used for nesting by burrowing owls. Gravel would also make the Solar Development Footprints unsuitable for the Tipton kangaroo rat, blunt nosed leopard lizard, and Nelson's antelope squirrel by significantly reducing the ability of these species to construct burrows or find and occupy burrows constructed by ground squirrels. To a limited extent, San Joaquin kit fox may traverse the Solar Development Footprints, but gravel would reduce the potential for them to disperse over the sites, prevent them from denning on the sites, and significantly reduce opportunities for foraging on the sites.

Graveling the Solar Development Footprints would greatly reduce the potential for Covered Species to use and occupy the areas developed with solar facilities and would reduce the risk of take of individuals, especial during the decommissioning phase of the Project. Graveling the Solar Development Footprints would not eliminate initial take of potential dispersal and foraging habitat that will occur during the pre-construction and construction phases of the Project, and would eliminate the potential benefits to Covered Species that could come about as the Solar Development Footprints become revegetated over the life of the Project. As the Solar Development Footprints become revegetated, Covered Species could use the Sites for dispersal, foraging, and reproduction. Graveling the Solar Development Footprints would reduce the overall conservation benefits to Covered Species or other listed and sensitive species over the life of the Project.

The proposed Project provides potential benefits to Covered Species and is significantly less expensive to undertake. Under the proposed Project, some risk of incidental take of individuals does exist, but there are potential benefits to the Covered Species brought about by natural revegetation of the Solar Development Footprints. The substantial amount of exposed earth around the solar arrays that is likely to become naturally revegetated over the course of the O&M phase, combined with very low levels of human activity in and around the solar developments during the O&M phase, makes for a beneficial setting for Covered Species to potentially inhabit and benefit from the developed solar lands. These potential conservation benefits would not occur under Alternative 3. In addition to the loss of potential conservation benefits, graveling the Solar Development Footprints would be cost prohibitive due to the need to purchase, transport, and spread gravel to the 3,700.8 acres. For example, if the 3,700.8 acre Solar Development Footprint was covered with gravel 4 inches deep, it would cost approximately \$2.25 million¹ (based on information from Randall Sand and Gravel 2013), not including delivery or

¹3,788 acres = 165.5 million ft² * 0.25 ft (depth of gravel) = 41.4 million ft³ of gravel = 1.5 million yd³ of gravel
1.5 million yd³ of gravel * 1.5 tons/yd³ * \$10/ton = \$2.25 million

preparation of the Project site prior to spreading the gravel. Besides the additional cost to solar developers, there are a number of negative environmental impacts related to mining the required gravel and trucking it to the Project site, including production of greenhouse gas emissions and potential vehicle strikes with special-status species due to increased traffic.

Furthermore, the entire 3,798.3 acres of Solar Sites will be managed in perpetuity for the benefit of Covered Species beginning immediately upon initiation of solar development decommissioning. The presence of gravel on the Solar Development Footprints would greatly reduce the potential habitat value of these lands after decommissioning, greatly increase the costs of habitat enhancement and management, and greatly reduce any conservation benefits that could otherwise be realized. For all of the reasons discussed above, Alternative 3 is rejected in favor of the proposed Project.